We Claim:

1. A method for stimulating nerve cell growth in a subject comprising administering to a subject an effective amount of an agent that stimulates nerve cell growth, selected from the group consisting of:

radicicol and its analogs;

a bastadin and its analogs;

agents that stimulate MAP kinase/kinase activity; and

mixtures thereof.

2. The method of claim 1, wherein the agent is a radicicol analog.

3. The method of claim 1, wherein the agent is bastadin 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20.

4. The method of claim 3, wherein the agent is bastadin 10.

5. The method of claim 3, wherein the agent is an analog of the bastadin.

6. The method of claim 1, wherein administering the compound comprises administering the radicicol or its analogs, or the bastadin or its analogs, wherein the compound inhibits association, promotes dissociation, or interferes with function of the steroid receptor complex or stimulates MAP kinase/kinase activity.

7. The method of claim 1, wherein the administering comprises administering a neurotrophic factor other than a compound that disrupts association of the mature steroid receptor complex or stimulates MAP kinase/kinase activity.

8. The method of claim 7 wherein administering the neurotrophic factor other than the compound that disrupts association of the mature steroid receptor or stimulates MAP kinase/kinase activity comprises administering a neurotrophic factor selected from the group of NGF, IGF-1, α-FGF, β-FGF, PDGF, BDNF, CNTF, GDNF, NT-3, NT 4/5, and mixtures thereof.

9. A method of screening for agents that stimulate nerve cell growth, comprising detecting agents that stimulate MAP kinase/kinase activity.

10. The method of claim 9, comprising screening a compound chosen from the group consisting of radicicol and platelet derived growth factor BB (PDGFBB), or analogs thereof.

11. The method of claim 1 further comprising applying a sufficient amount of heat to an area where nerve cell growth is desired.

12. The method of claim 1, further comprising providing a template in an area where nerve growth is desired.

13. The method of claim 12, wherein the template is a tubular member that defines an anatomical pathway along which nerve growth is desired.

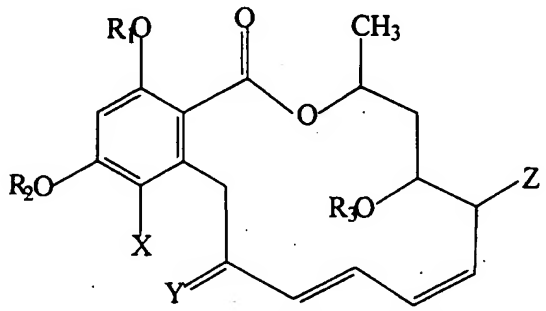
14. The method of claim 12, further comprising providing a therapeutically effective amount of the compound in claim 1 in association with the template to promote nerve growth.

15. The method of claim 12, wherein the template is placed between opposing ends of a transected or partially transected nerve.

16. The method of claim 12, further comprising applying to the template a therapeutically sufficient amount of heat, effective to enhance nerve growth.

17. A template for promoting nerve growth along a desired anatomical path, between two template is impregnated with the compound or claim 1.

18. The method of claim 1, wherein the agent is a compound of the formula:



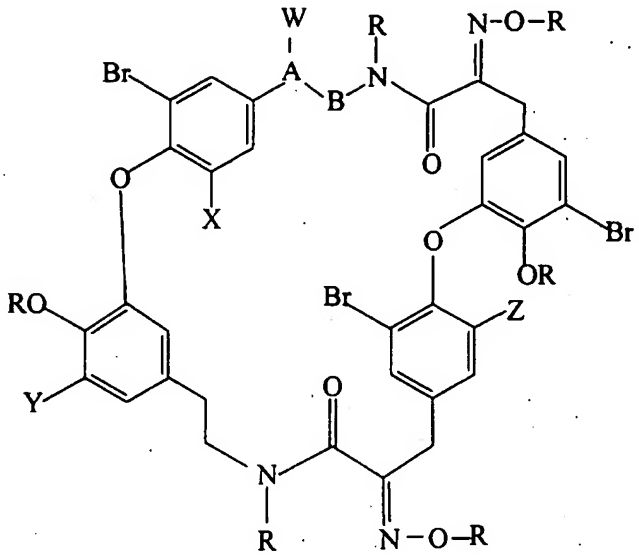
where R_1, R_2, and R_3 are independently selected from the group consisting of H, C1-C8 alkyl or COR_5. R_5 is chosen from the group consisting of hydrogen, substituted alkyl, alkoxy, alkenyl, substituted alkenyl, alkenyloxy, alkynyl, substituted alkynyl, aryl with 6 to 14 ring atoms, arlyoxy with 6 to 14 ring atoms, heterocyclic groups with 5 or 6 ring atoms, heterocylic groups with 5 or 6 ring atoms fused to an aryl group, cycloalkyl, cycloalkenyl, and cycloalkyl fused to an aryl group.

19. The method of claim 18, wherein the compound is a compound other than radicicol.

20. The method of claim 1 wherein the agent is radicicol, a radicicol analog, a bastadin, a bastadin analog, or combinations thereof.

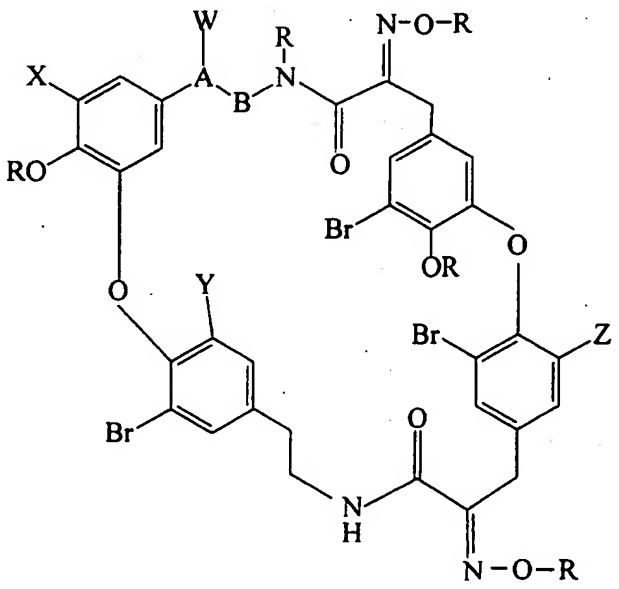
21. The method of claim 20 wherein the agent is a radicicol analog, a bastadin, a bastadin analog, or combinations thereof.

22. The method of claim 1, wherein the agent is a bastadin or its analog having the structure:



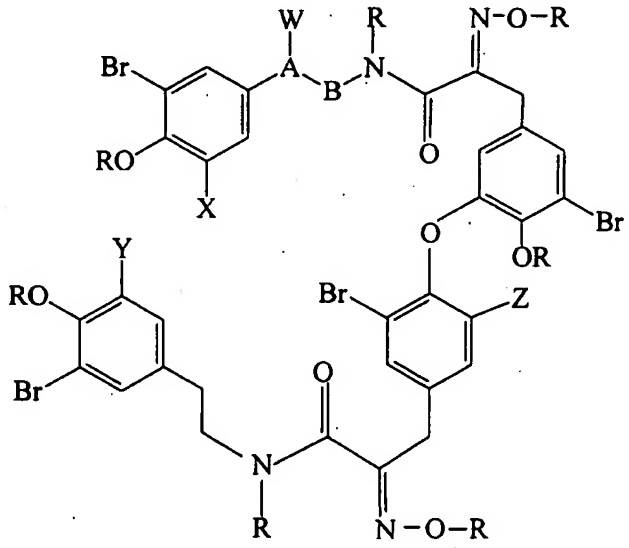
where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

23. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



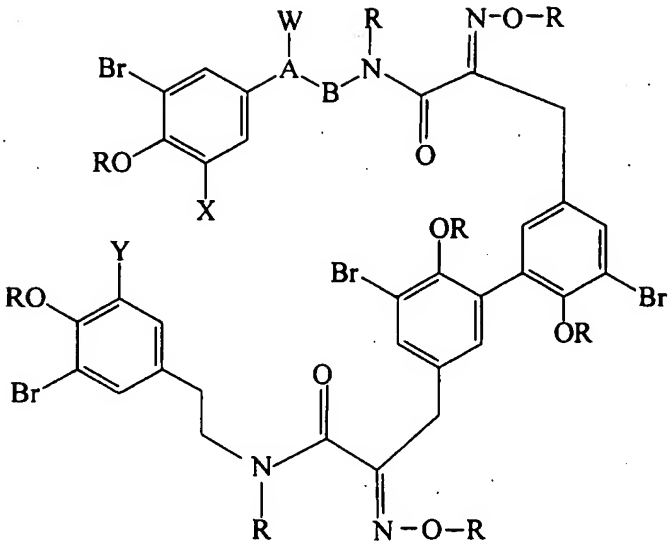
where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

24. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



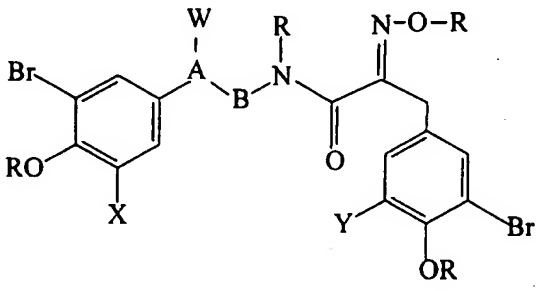
where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X, Y, and Z are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

25. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



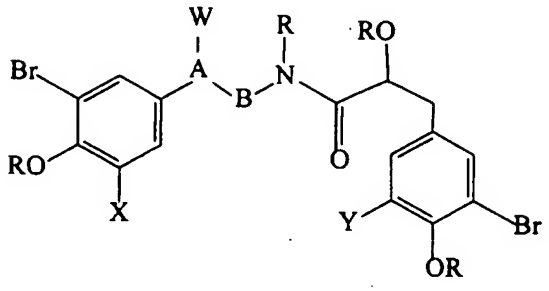
where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

26. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



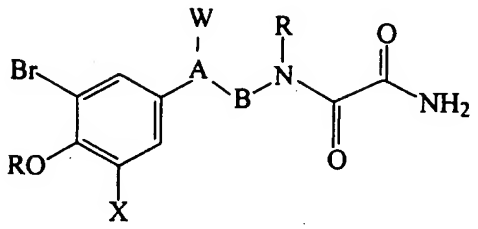
where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond..

27. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X and Y are selected independently from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond.

28. The method of claim 1 wherein the agent is a bastadin or its analog having the structure:



where each R is independently selected from the group consisting of H, C1-8 alkyl, or sulfato, W is selected from the group consisting of H, OH, or C1-8 alkoxy, X is selected from the group consisting of hydrogen, halogen, hydroxyl, or C1-8 alkoxy, and A and B are carbon atoms that are joined by a single or a double bond..

29. A method of stimulating nerve cell growth in a mammalian subject, comprising:

administering to the subject an effective amount of an agent that disrupts assembly of a steroid receptor complex or stimulates MAP kinase/kinase activity, wherein the agent is selected from the group consisting of radicicol and its analogs, bastadins and their analogs, geldanamycin and its analogs, a benzoquinone ansamycin and structural analogs thereof, a peptide comprising a sequence of a selected polypeptide component of the complex at a site of interaction between the selected component and another polypeptide component and the complex, an antibody to one or more components of the steroid receptor complex, a neurotrophic factor other than an agent that disrupts association of the mature steroid receptor complex, and mixtures thereof; and

applying a therapeutically effective amount of heat.

30. A method of stimulating nerve cell growth in a mammalian subject comprising:

providing a template that defines the anatomical path along which nerve growth is desired;

impregnating the template with an effective amount of an agent that disrupts assembly of a steroid receptor complex or stimulates MAP kinase/kinase activity, wherein the agent is selected from the group consisting of, radicicol and its analogs, bastadins and their analogs, geldanamycin and its analogs, a benzoquinone ansamycin and structural analogs thereof, a peptide comprising a sequence of a selected polypeptide component of the complex at a site of interaction between the selected component and another polypeptide component and the complex, an antibody to one or more components of the steroid receptor complex, a neurotrophic factor other that an agent that disrupts association of the mature steroid receptor complex, and mixtures thereof; and

applying a therapeutically effective amount of heat.